

IN THE CLAIMS

This complete listing of the pending claims replaces all previous listings of the claims.

CLEANED UP CLAIMS:

Claims 1-2 (canceled)

3. (withdrawn, currently amended) A process according to Claim 6 [[5]], wherein it involves chill molding or chill casting.

4. (currently amended) A diesel powered vehicle, wherein the diesel engine includes a crankshaft with combined drive gear wheel, wherein both the crankshaft and drive gear wheel are cast as one piece, wherein crankshaft and gear wheel exhibit differential hardening, wherein both are manufactured from tempered ductile iron (ADI), wherein the hardness of the gear wheel is further increased by at least one of (a) local differential thermal treatment during ADI heat treatment and/or by (b) peening, and wherein the friction wear resistance of the gear teeth is increased by application of carbide containing coatings (CADI).

5. (currently amended) A crankshaft with combined drive gear wheel, wherein both crankshaft and drive gear wheel are cast as one piece, wherein crankshaft and gear wheel exhibit differential hardening, wherein both are manufactured from tempered ductile iron (ADI), wherein the hardness of the gear wheel is further increased by local differential thermal treatment during ADI heat treatment and/or by peening, and wherein the friction wear resistance of the gear teeth is increased by application of carbide containing coatings (CADI).

6. (withdrawn, currently amended) A process for manufacturing a crankshaft with combined drive gear wheel, wherein both crankshaft and drive gear wheel are cast as one piece, wherein a base alloy suitable for tempered ductile iron (ADI) is employed as casting material and heat

treated, wherein at least one of (a) the heat treatment is controlled locally differentially such that locally the hardness is further increased, and/or (b) wherein the durability of the gear wheel is locally increased by peening,

and wherein the friction wear resistance of the teeth of the gear wheel is increased by application of carbide containing coatings.

7. (new) The diesel powered vehicle according to claim 4, wherein the hardness of the gear wheel is increased by local differential thermal treatment during ADI heat treatment

8. (new) The diesel powered vehicle according to claim 7, wherein carbide is locally introduced into the melt to obtain an ADI microstructure with supplemental introduced carbides in the cast part.

9. (new) The diesel powered vehicle according to claim 7, wherein the friction wear resistance of the gear teeth is increased by locally introducing carbide into the melt in the area of the cast teeth to obtain an ADI microstructure with supplemental introduced carbides in the area of the teeth of the cast part.

10. (new) The diesel powered vehicle according to claim 4, wherein the hardness of the gear wheel is increased by by peening.

11. (new) The crankshaft with combined drive gear wheel according to claim 5, wherein the hardness of the gear wheel is increased by local differential thermal treatment during ADI heat treatment

12. (new) The crankshaft with combined drive gear wheel according to claim 11, wherein carbide is locally introduced into the melt to obtain an ADI microstructure with supplemental introduced carbides in the cast part.

13. (new) The crankshaft with combined drive gear wheel according to claim 11, wherein the friction wear resistance of the gear teeth is increased by locally introducing carbide into the melt in the area of the cast teeth to obtain an ADI microstructure with supplemental introduced carbides in the area of the teeth of the cast part.
14. (new) The crankshaft with combined drive gear wheel according to claim 5, wherein the hardness of the gear wheel is increased by by peening.